

Fairfax County Police Officers Retirement System

A Pension Trust
Fund of Fairfax
County Virginia

Comprehensive Annual Financial Report

For the Fiscal Year July 1, 1997 to June 30, 1998

Produced by the:
Fairfax County Retirement Administration Agency
10680 Main Street, Suite 280
Fairfax VA 22030

TABLE OF CONTENTS

<u>Introductory Section</u>	<u>Page</u>
Letter of Transmittal	1
Board of Trustees	7
Administrative Organization	8
Organizational Chart	9
Summary of Plan Provisions	10
 <u>Financial Section</u>	
Independent Auditors' Report	13
Financial Statements	
Statement of Plan Net Assets	14
Statement of Changes in Plan Net Assets	15
Notes to Financial Statements	16
Required Supplementary Information and Supporting Schedule	
Schedule of Funding Progress	21
Schedule of Employer Contributions	21
Notes to Required Supplementary Information	22
Schedule of Investment Expense	23
 <u>Investment Section</u>	
Asset Allocation By Category And Investment Manager	25
Asset Allocation	26
List of Largest Assets Held	27
Total Fund Average Return on Investments	28
 <u>Actuarial Section</u>	
Actuary's Certification Letter	29
Summary of Valuation Results	31
Summary of Actuarial Assumptions and Methods	37
Analysis of Financial Experience	43
Schedule of Retirees and Beneficiaries Added To and Removed From Rolls .	43
Solvency Test	44
 <u>Statistical Section</u>	
Schedule of Additions by Source and Deductions by Type	45
Schedule of Benefit Payments by Type	46
Schedule of Retired Members by Benefit Type	46
Schedule of Average Monthly Benefit Amounts	46

THIS PAGE INTENTIONALLY LEFT BLANK

INTRODUCTORY SECTION



**FAIRFAX
COUNTY**

**BOARD OF TRUSTEES
POLICE OFFICERS RETIREMENT SYSTEM**
10680 Main Street, Suite 280
Fairfax, Virginia 22030-3812

Telephone: (703) 246-2396 (800) 333-1633 FAX: (703) 273-3185

V I R G I N I A

December 28, 1998

Dear Members of the Board of Trustees:

We are pleased to submit to you the annual report of the Fairfax County Police Officers Retirement System ("System") for the fiscal year ended June 30, 1998. We hope this annual report will aid in understanding the structure and evaluating the status of the System. The System's management is responsible for the accuracy of financial information contained herein.

The annual report for fiscal year 1998 consists of five sections: an Introductory Section which contains a transmittal letter along with the identification of the organization; a Financial Section which contains the opinion of the independent auditors, the financial statements of the System and required supplementary information; an Investment Section which contains investment results; the Actuarial Section which contains the independent actuary's certification letter, a summary of the results of the July 1, 1997 actuarial valuation, and actuarial procedures and assumptions; and the Statistical Section which contains information regarding the System membership.

History

The Fairfax County Police Officers Retirement System was created under the authority granted by Chapter 303 of the Acts of Assembly (law of the Commonwealth of Virginia) on March 29, 1944 to provide defined benefit pension plan coverage for sworn full-time law enforcement officers of the Fairfax County Police Department. In 1981, Fairfax County enacted Article 7 of the Fairfax County Code which adopted and continued Chapter 303 as amended. There were 1,050 active members and 532 retirees participating in the System as of June 30, 1998.

Benefit Provisions

The benefit provisions of the System are established by County Ordinance. The System provides normal service retirement and early service retirement benefits for members who attain age or service requirements. Coverage for service-connected disability benefits is immediate upon membership in the System. Ordinary (non-service related) disability benefits are provided after the attainment of five years of service. Members are vested after five years of service and are eligible for the benefits at the early or normal service retirement date.

INTRODUCTORY SECTION

Capital Markets, Economic Conditions and Outlook

Fiscal 1998 Review

Fiscal 1998 ending June 30 was another good year for capital markets and almost a replay of fiscal 1997. The S&P 500 Index advanced 30.2%, marking the tenth consecutive fiscal year of positive returns for the Index and the fourth consecutive year of 25+% growth. US equity returns were again easily the best performer among major asset classes. US equity returns almost tripled the 10.5% return of the Lehman Brothers Aggregate Bond Index, and were nearly five times higher than the 6.4% achieved by the MSCI EAFE Index, the leading equity index of international developed markets.

Gains in 1998 were once again concentrated in the largest of the S&P 500 Index stocks, capping the fourth consecutive year that large-capitalization stocks outperformed small-cap stocks. The small-cap sector, as measured by the Russell 2000 Index, gained a more modest 16.5% for the fiscal year. The best-performing segment of the market was the large-cap S&P/BARRA Growth Index, which advanced 34.9% for the year. Large-cap "growth" stocks outperformed "value" stocks during 1998, but value had the advantage among both mid- and small-cap stock sectors. Once again the leadership within the stock market was very narrowly defined during the fiscal year, as the top ten performing stocks in the S&P 500 Index (mostly multinational, blue-chip stocks) accounted for 43% of the Index's return.

Economic conditions generally favored capital markets in fiscal 1998. This positive environment was bolstered by solid economic growth, as the Gross Domestic Product grew at better than 3.6% for the year. Consumer confidence reached a 30-year high, which fueled rising consumer spending. Strong corporate profits in 1998 led to new job creation and shrinking unemployment, which bottomed-out at 4.3%, a 24-year low. Declining interest rates, a cooperative Federal Reserve, and a Consumer Price Index that averaged only 1.6% over the past 12 months all contributed to the favorable capital market returns. International developments, however, roiled capital markets worldwide as several Asian countries experienced sharp economic, currency and confidence dislocations, causing the MSCI Emerging Markets Free Index to plummet 39% for the year. Japan was impacted by a deepening recession, weakening yen, and inability of the Japanese government to reform the banking system or stimulate the economy. Concern over this Asian crisis raised volatility in worldwide equity markets, but boosted US fixed-income markets as investors sought safe, liquid markets within which to weather the storm. US Treasury bonds were that safe haven. The 30-year Treasury Bond Index yield dropped 120 basis points from 6.8% at June 30, 1997 to 5.6% at June 30, 1998.

System

Against this economic backdrop, the System's assets advanced 17.8% for the fiscal year, a favorable absolute return and one not much below the outstanding 22.1% gain achieved in the previous year. The market value of the System increased from \$452.4 million on June 30, 1997 to \$532.8 million on June 30, 1998. The System ended the fiscal year with 51% in domestic and international equities, 37% in fixed-income securities, 9% in equity REITs and 3% in cash. Derivatives represented 13.7% of the portfolio, consisting primarily of triple A-rated collateralized mortgage obligations. These securities were not of the speculative or leveraged variety.

INTRODUCTORY SECTION

Outlook

Since the Bull Market began eight years ago on October 11, 1990, the S&P 500 Index has risen 283.8% on a price-only basis, or 19.0% annualized. The concept of "regression to the mean" suggests that the return of the S&P 500 Index should gravitate to the historic annual average of 11.2%. Indeed, after starting off fiscal 1999 by hitting record highs in mid-July, equity markets corrected sharply through the end of August, 1998, losing nearly 20% of value within two months. This correction was triggered by Russia's debt default and currency devaluation, which produced large losses for several US-based hedge funds, brokers and bankers. The Federal Reserve stepped in with three quick moves, dropping short-term interest rates 75 basis points to 4.75%. This action had the effect of calming worldwide capital markets, restoring liquidity to credit markets and confidence among consumers and allowing capital markets to rebound to former pre-correction levels. Going forward through fiscal 1999, we expect to see moderating economic growth, a slowdown in corporate profits, a slight pick-up in inflationary pressures, and continued volatility in capital markets.

The System's investments continue to be well-positioned and diversified. Any short-term downturn in the bond and equity markets would not have a material effect on the funded status of the System.

Financial Highlights

Internal and Budgetary Controls

The System's management is responsible for maintaining internal accounting controls to provide reasonable assurance that transactions are properly authorized and recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles. We believe the internal controls in effect during the fiscal year ended June 30, 1998, adequately safeguard the System's assets and provide reasonable assurance regarding the proper recording of financial transactions. In addition, the budget for the System is annually presented to and approved by the Board of Trustees. The budget for the Retirement Administration Agency is also reviewed and approved by the County's Board of Supervisors.

INTRODUCTORY SECTION

Additions

The sources of additions for the System include member and employer contributions as well as net investment income. Total contributions and net investment income for fiscal year 1998 totaled \$95.8 million, a decrease of \$1.4 million versus fiscal year 1997.

Table 1. Contributions and Investment Income

	FY 1998 (millions)	FY 1997 (millions)	Increase/ (Decrease) Amount	Increase/ (Decrease) Percentage
Employer Contributions	\$11.3	\$ 11.9	\$ (0.6)	(5.0)%
Member Contributions	6.2	6.0	0.2	3.3
Net investment Income	78.2	79.3	(1.1)	(1.4)
	\$95.8	\$ 97.2	\$ (1.4)	(1.4)%

Contributions

Contributions from Fairfax County decreased 5.0% from the prior year. The decrease in employer contributions was attributable to a decrease in the contribution rate from 23.64% in FY 1997 to 21.79% in FY 1998 and a higher payroll base. Member contributions increased 3.3% over the prior year due to the higher payroll base.

Investments

The net investment income portion of total additions decreased by \$1.1 million or 1.4% in fiscal year 1998. Dividend and interest income increased \$3.6 million or 25.8%. Realized and unrealized gains on investments decreased \$4.1 million or 6.2%. The market value of net assets increased to \$532.8 million from \$452.4 million.

Deductions

The deductions from the System include the payment of retiree and beneficiary payments, the refund of employee contributions to former members and administrative expenses. Deductions for fiscal year 1998 totaled \$15.4, an increase of \$1.7 million or 12.4% over the prior fiscal year.

Table 2. Deductions by Type

	FY 1998 (millions)	FY 1997 (millions)	Increase/ (Decrease) Amount	Increase/ (Decrease) Percentage
Benefits	\$14.7	\$13.3	\$1.4	10.5%
Refunds	0.5	0.3	0.2	67.0%
Administrative Expenses	0.2	0.1	0.1	50.0%
	\$15.4	\$13.7	\$1.7	12.4%

INTRODUCTORY SECTION

The increase in benefit payments to \$14.7 million was mostly attributed to an increase in retirees. The number of retirees and beneficiaries increased to 532 at June 30, 1998 from 486 a year earlier. Retirees also received a 2.2% cost-of-living increase effective July 1, 1997.

Funded Status

An actuarial valuation of the System to determine funding requirements is performed annually. The System's funding policy provides for periodic employer contributions at actuarially determined rates which will remain relatively level over time as a percentage of payroll and will accumulate sufficient assets to meet the costs of benefit payments when due. The valuation of the System performed as of July 1, 1997 indicated that the ratio of assets accumulated by the System to total actuarial accrued liabilities for benefits increased from 88.3% to 96.4%.

The Actuarial Section contains further information on the results of the July 1, 1997 valuation.

Investment Policies and Strategies

The Board of Trustees has an adopted Statement of Investment Objectives and Policy. This Statement establishes the investment goals, guidelines, constraints and performance standards the Trustees will use when exercising its fiduciary duties to manage the investment assets of the System. The Board operates in conformity with the standard of care required in making investments as stated in the Code of Virginia §26-45.1.A.

The Board receives quarterly reporting from staff and the System's investment consultant, William M. Mercer, to ensure compliance with its stated objectives and policy. Mercer also monitors the performance of the System and its investment managers; rate of return information is included in the Investment Section.

Securities of the System except for a pooled fund and short-term investment fund are held by State Street Bank and Trust Company, as agent, in the System's name. State Street Boston Corporation, the parent company, carries Financial Institution Bond insurance coverage including a Computer Crime Policy. An additional Excess Securities policy covers all risk of physical loss to securities.

INTRODUCTORY SECTION

Other Information

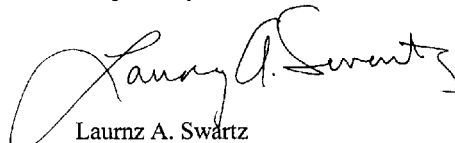
Independent Audit and Actuarial Certifications

An independent auditors' report and certifications from the actuary are included in this report.

Acknowledgements

The annual report of the Police Officers Retirement System was prepared by the System's staff under the leadership of the Board of Trustees. I would like to thank the staff who have worked hard throughout the year to ensure the successful operation of the System. This report is intended to provide complete and reliable information for determining the financial status of the System. It is being submitted to the Board of Supervisors and other interested parties.

Respectfully submitted,



Larnz A. Swartz
Executive Director

INTRODUCTORY SECTION

BOARD OF TRUSTEES

Lt. Arthur J. Hurlock Jr.
President
Member Trustee
Term Expires: December 31, 1998

Captain Robert P. Fitzpatrick
Vice President
Member Trustee
Term Expires: December 31, 2000

Susan S. Planchon
Treasurer
Fairfax County Director of Finance
Ex officio Trustee

Brant Baber
Baber & Kalinowski, P.C.
Term Expires: January 31, 1999

Forrest E. Williams
Prudential-Bache Securities, Inc.
Term Expires: January 31, 2002

INTRODUCTORY SECTION

ADMINISTRATIVE ORGANIZATION

Administrative Staff

Laurnz A. Swartz
Executive Director

Jeffrey A. Willison
Investment Manager

Don A. McCorry
Retirement Administrator

Professional Services

Actuary

Milliman & Robertson, Inc.
Actuaries
Vienna, VA

Auditor

KPMG Peat Marwick LLP
Certified Public Accountants
Washington, DC

Investment Managers

BEA Associates
New York, NY

Dodge & Cox, Investment Managers
San Francisco, CA

Capital Guardian Trust Company
Los Angeles, CA

Furman Selz Capital Management LLC
New York, NY

Cohen & Steers Capital Management, Inc.
New York, NY

Robert E. Torray & Co., Inc.
Bethesda, MD

Attorney

W. McCauley Arnold
McCandlish & Lillard
Fairfax, VA

Custodial Bank

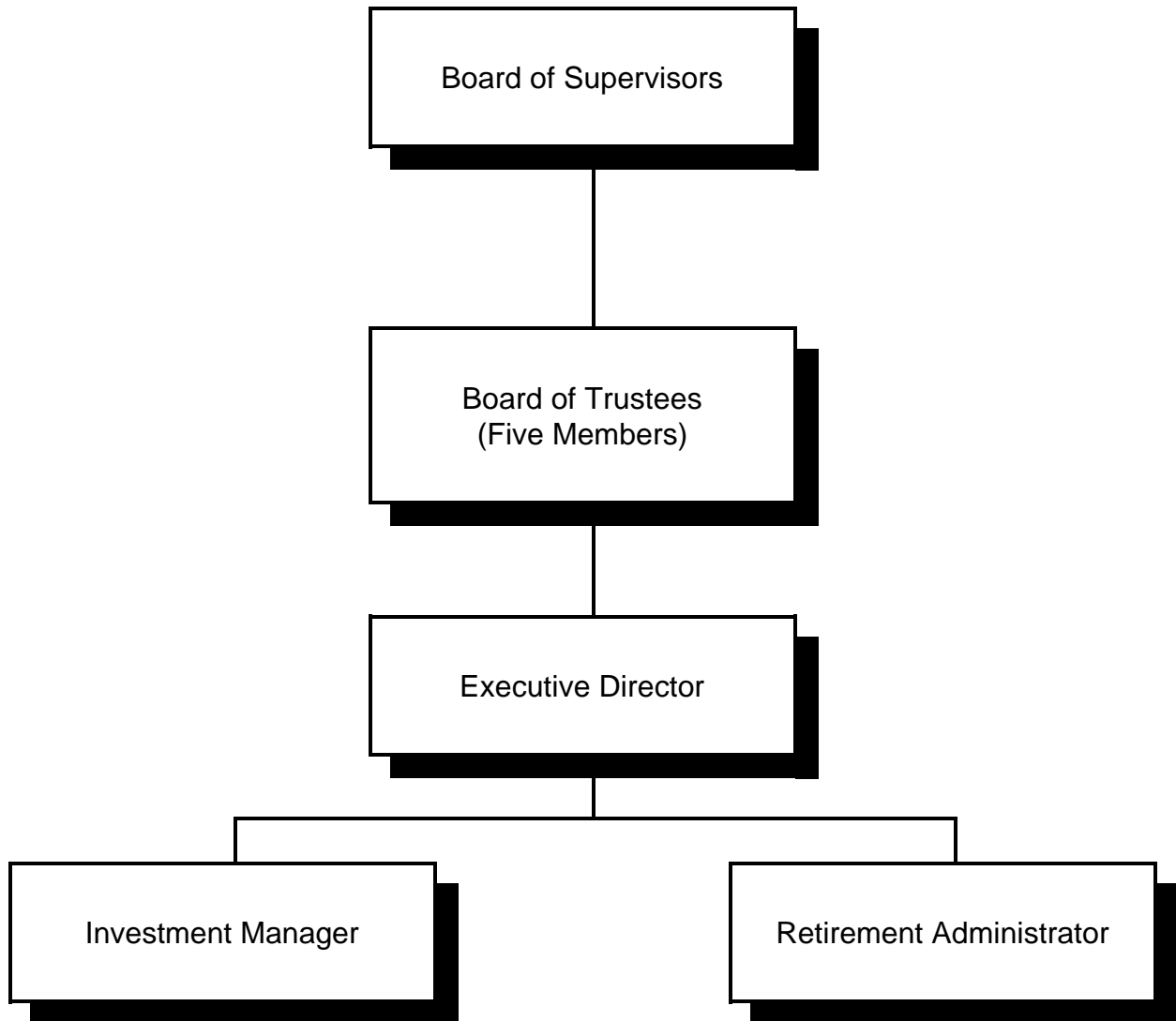
State Street Bank and Trust Company
Boston, MA

Investment Consultant

Mercer Investment Consulting Inc.
Richmond, VA

INTRODUCTORY SECTION

ORGANIZATIONAL CHART



INTRODUCTORY SECTION

SUMMARY OF PLAN PROVISIONS

Membership in the Fairfax County Police Officers Retirement System includes full-time sworn law enforcement officers in the Fairfax County Police Department.

The general provisions of the Police Officers Retirement System are as follows:

Contribution Rate: 12% of base salary (including roll call and holiday pay). Police Officers do not contribute to Social Security except Police Officers hired after April 1, 1986 contribute to Medicare.

Benefit: 2½% of average final compensation (highest consecutive three years) times creditable service up to a maximum of 75%. The total benefit is then increased by 3%.

Normal Retirement: is either age 55 or at least 25 years of creditable service (20 years if sworn in before July 1, 1981).

Early Retirement: is 20 years of creditable service if sworn in on or after July 1, 1981.

Deferred Vested Retirement: is available for vested members (vesting is at 5 years of creditable service) who leave their contributions in the System when they terminate. These members are entitled to their normal retirement benefit based on service with the Police Department at age 55.

Service-Connected Disability Retirement: is available for members, regardless of their length of service, who become disabled as a result of a job-related illness or injury. Benefits are 66⅔% of their average final compensation if sworn in on or after July 1, 1981. If sworn in before July 1, 1981, the benefit is based on 66⅔% of the salary the member would have received if he or she had not been disabled. Any member who is still disabled when they reach their normal retirement date will have their benefit reduced to 60% of the salary he or she would have received if he or she had not been disabled.

Ordinary Disability Retirement: is available for vested members who become disabled due to an injury or illness that is not job-related. Normal retirement benefits are paid (minimum is 10% of the member's salary).

Death Benefits: *Before Retirement* — An automatic monthly benefit is payable to the spouse and children. This benefit equals \$1,301.83 for the spouse (until remarriage before age 60) or surviving handicapped child (if there is no spouse) plus each eligible child receives \$520.72 up to a total family benefit of \$2,603.68 (these benefits are indexed to inflation). If the death occurred in the line of duty, the spouse or surviving handicapped child (if there is no spouse) may elect to receive 66⅔% of the member's regular salary at the time of death in lieu of the automatic benefits. If no automatic benefit is payable, contributions will be refunded to the member's beneficiary.

After Retirement — For those retiring on a regular service or service-connected

INTRODUCTORY SECTION

SUMMARY OF PLAN PROVISIONS

(Continued)

disability retirement, an automatic monthly benefit is payable to the spouse and children. This benefit equals \$1,301.83 for the spouse (until remarriage before age 60) or surviving handicapped child (if there is no spouse) plus each eligible child receives \$520.72 up to a total family benefit of \$2,603.68 (these benefits are indexed to inflation). In addition, members who retire on a regular service retirement may elect a Joint and Contingent Spouse and Handicapped Child option which provides 100%, 66⅔%, or 50% of the retiree's reduced benefit to the spouse or eligible handicapped child for life. The member's annuity is reduced by a percentage based on the difference in age between the member and his or her spouse. If the spouse pre-deceases the member, the annuity is restored to what it would have been if this option had not been elected. If no automatic benefit is payable, contributions not yet paid out in benefits will be refunded to the member's beneficiary.

THIS PAGE INTENTIONALLY LEFT BLANK

KPMG Peat Marwick LLP

2001 M Street, N.W.
Washington, DC 20036

Independent Auditors' Report

The Board of Supervisors
County of Fairfax, Virginia

The Board of Trustees
Fairfax County Police Officers Retirement System:

We have audited the financial statements of the Fairfax County Police Officers Retirement System (System), a pension trust fund of the County of Fairfax, Virginia, as of and for the year ended June 30, 1998, as listed in the accompanying table of contents. These financial statements are the responsibility of the System's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the plan net assets of the System as of June 30, 1998, and its changes in plan net assets for the year then ended, in conformity with generally accepted accounting principles.

Our audit was made for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplementary information on pages 21 through 23 is presented for purposes of additional analysis and is not a required part of the basic financial statements. The supplementary information on pages 21 and 22 is required by the Governmental Accounting Standards Board. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

KPMG Peat Marwick LLP

October 5, 1998



Member Firm of KPMG International

FINANCIAL SECTION

STATEMENT OF PLAN NET ASSETS

as of June 30, 1998

Assets

Equity in County's pooled cash and temporary investments	\$1,452,623
Accrued interest and dividends receivable	2,658,727
Investments, at fair value	
U.S. Government obligations	47,664,892
Asset-backed securities	91,197,002
Municipal bonds	5,691,704
Corporate bonds	51,015,646
Common and preferred stock	321,132,320
Short-term investment fund	12,673,585
Cash collateral received under securities lending agreements	<u>39,274,546</u>
Total investments	<u>568,649,695</u>
Total assets	572,761,045

Liabilities

Payable for collateral received under securities lending agreements	39,274,546
Accounts payable and accrued expenses	<u>702,554</u>
Total liabilities	<u>39,977,100</u>

Net assets held in trust for pension benefits	<u>\$532,783,945</u>
(A schedule of funding progress is presented on page 21.)	

See accompanying notes to financial statements.

FINANCIAL SECTION

STATEMENT OF CHANGES IN PLAN NET ASSETS

For the Year Ended June 30, 1998

Additions

Contributions	
Employer	\$11,321,194
Plan members	<u>6,235,043</u>
Total contributions	17,556,237
Investment income	
Net appreciation in fair value of investments	62,877,583
Interest	12,240,092
Dividends	5,456,166
Securities lending	2,378,900
Other	<u>10,041</u>
Total investment income	82,962,782
Less investment expense	
Securities lending	2,279,034
Investment fees and other	<u>2,465,485</u>
Total investment expense	4,744,519
Net investment income	<u>78,218,263</u>
Total additions	95,774,500

Deductions

Annuity benefits	12,939,235
Disability benefits	1,006,406
Survivor benefits	820,017
Refunds	476,784
Administrative expense	<u>153,738</u>
Total deductions	<u>15,396,180</u>

Net increase 80,378,320

Net assets held in trust for pension benefits

July 1, 1997 452,405,625

June 30, 1998 \$532,783,945

See accompanying notes to financial statements.

FINANCIAL SECTION

NOTES TO THE FINANCIAL STATEMENTS

For the Year Ended June 30, 1998

The Fairfax County Police Officers Retirement System ("System" or "plan") is a legally separate single-employer defined benefit pension plan established under the Code of Virginia to provide defined benefit pension benefits to certain Fairfax County, Virginia ("County") police and park police officers. As such, the System is considered part of the County reporting entity and its financial statements are included in the County's general purpose financial statements as a pension trust fund.

A. Summary of Significant Accounting Policies

Basis of Accounting. The System's financial statements have been prepared under the accrual basis of accounting. Member and employer contributions to the plan are recognized in the period in which the contributions are due. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan. The cost of administering the plan is paid by the System.

Method Used to Value Investments. Investments are reported at fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Asset-backed securities are valued on the basis of future principal and interest payments and are discounted at prevailing interest rates for similar instruments. The System records investment purchases and sales as of trade date. These transactions are not finalized until settlement date, which occurs approximately three business days after the trade date. The amounts of trade receivables and payables are not separately disclosed due to immateriality. Cash received as collateral on securities lending transactions and investments made with such cash are reported as assets along with a related liability for collateral received.

Equity in County's pooled cash and temporary investments. The System maintains its cash with the County, which invests cash and allocates interest earned, net of a management fee, on a daily basis to the fund based on the fund's average daily balance of equity in pooled cash. As of June 30, 1998, the bank balance of the County's public deposits was either insured by the Federal Deposit Insurance Corporation or was insured through the State Treasury Board pursuant to the provisions of the Security for Public Deposit Act.

FINANCIAL SECTION

NOTES TO THE FINANCIAL STATEMENTS

(Continued)

B. Plan Description and Contribution Information

Membership. At July 1, 1997, the date of the latest actuarial valuation, membership in the System consisted of:

Retirees and beneficiaries receiving benefits	486
Terminated plan member entitled to but not yet receiving benefits	1
Active plan members	<u>1,037</u>
Total	<u>1,524</u>

Plan Description. The System is a single-employer defined benefit pension plan. The plan covers County police officers who are not covered by other plans of the County or the Virginia Retirement System and former Park Police officers who elected to transfer to the System from the Uniformed Retirement System effective January 22, 1983. Benefit provisions are established and may be amended by County ordinances. All benefits vest at five years of service. To be eligible for normal retirement, an individual must meet the following criteria: (a) if employed before July 1, 1981; attained the age of 55 or completed 20 years of service, or (b) if employed on or after July 1, 1981; attained the age of 55 or completed 25 years of service. The normal retirement benefit is calculated using average final compensation and years (or partial years) of service at date of termination. The plan provides that unused sick leave credit may be used in the calculation of average final compensation by projecting the final salary during the unused sick leave period. To be eligible for early retirement, the employee must have 20 years of service (does not apply if hired before July 1, 1981). Benefits are determined based on the normal retirement benefit calculated using average final compensation and service at early retirement actuarially reduced.

Annual cost-of-living adjustments are provided to retirees and beneficiaries equal to the lesser of 4 percent or the percentage increase in the Consumer Price Index for the Washington Metropolitan Area.

Contributions. The contribution requirements of System members are established and may be amended by County ordinances. Member contributions are based on 12 percent of compensation. The County is required to contribute at an actuarially determined rate; the rate for the year ended June 30, 1998 was 21.79 percent of annual covered payroll.

C. Investments

The authority to establish the System is set forth in Chapter 303 of the Acts of Assembly (law of the Commonwealth of Virginia). Section 26-40 of the *Code of Virginia* (Code) authorizes the

FINANCIAL SECTION

NOTES TO THE FINANCIAL STATEMENTS

(Continued)

System to purchase the following investments:

- Obligations of the Commonwealth of Virginia and its instrumentalities
- U.S. Treasury and agency securities
- Obligations of counties, cities, towns, and other public bodies located within the Commonwealth of Virginia
- Obligations of state and local governmental units within other states
- Obligations of the International Bank for Reconstruction and Development
- Obligations of the Asian Development Bank
- Obligations of the African Development Bank

In addition, the Code provides that the System may purchase other investments for pension funds (including common and preferred stocks and corporate bonds) that meet the standard of judgment and care set forth in Section 26-45.1 of the Code.

As permitted by the Code described above, the System invests in derivative instruments on a limited basis in accordance with Board of Trustees' policy. During the fiscal year, the System invested directly in various derivatives including asset-backed securities, collateralized mortgage obligations (CMOs), forward currency contracts, and floating rate securities. Investment managers are specifically prohibited from purchasing securities on margin or leverage.

The System entered into these investments either to increase earnings or to hedge against potential losses. These investments generally contain market risk resulting from fluctuations in interest and currency rates. The credit risk of these investments results from the creditworthiness of the counterparties to the contracts. An additional credit risk related to the asset-backed securities and CMOs results from the creditworthiness of the related consumers or mortgagees. In addition, during the year the System had indirect exposure to market and credit risk through its ownership interests in a mutual fund which held derivative financial instruments.

At June 30, 1998, investments in derivatives represented 13.7 percent of the total fair value of the System's portfolio. Throughout the fiscal year, investments in derivatives including the related mutual fund ranged from 7.1 percent to 13.7 percent of the portfolio's fair value.

The System does not have investments (other than U.S. government and U.S. government guaranteed obligations) in any one organization that represent 5 percent or more of net assets available for benefits. All investments, except for the short-term investment fund and short-term collateral investment pool, are held by an unaffiliated custodian in the name of the System. Investment decisions for these assets are made by the Board of Trustees or investment managers selected by the Board.

Board of Trustees policies permit the System to lend its securities to broker-dealers and other entities (borrowers) for collateral that will be returned for the same securities in the future. The System's custodian is the agent in lending the plan's domestic securities for collateral of 102 percent and international securities for collateral of 105 percent. The custodian receives cash or securities as collateral. All securities loans can be terminated on demand by either the System or

NOTES TO THE FINANCIAL STATEMENTS

FINANCIAL SECTION

(Continued)

the borrower. Cash collateral is invested in the lending agent's collective collateral investment pool, which at year end has a weighted average maturity of 64 days. The relationship between the maturities of the investment pool and the System's loans is affected by the maturities of securities loans made by other plan entities that invest cash collateral in the investment pool, which the System cannot determine.

The System did not impose any restrictions during the period on the amounts of loans the lending agent made on its behalf, and the agent indemnifies the System by agreeing to purchase replacement securities, or return the cash collateral thereof, in the event a borrower fails to return loaned securities or pay distributions thereon. There were no such failures by any borrower during the fiscal year, nor were there any losses during the period resulting from a default of the borrower or lending agent.

Securities lent for securities collateral are classified in the following schedule of investments according to the category of the collateral received. Securities lent at year-end for cash collateral are unclassified as the cash collateral is invested in a collective collateral investment pool. At year end, the System had no credit risk exposure to borrowers because the amounts the System owed the borrowers exceeded the amounts the borrowers owed the System.

As of June 30, 1998, the market value of securities on loan is \$39,565,980. Cash received as collateral and the related liability of \$39,274,546 as of June 30, 1998 are shown on the Statement of Plan Net Assets. Securities received as collateral are not reported as assets since the System does not have the ability to pledge or sell the collateral securities absent borrower default.

The System's investments are categorized to give an indication of the level of risk assumed by the System at year end. Category 1 includes investments that are insured or registered or for which the securities are held by the System or its agent in the System's name. Category 2 includes uninsured and unregistered investments for which the securities are held by a counterparty's trust department or agent in the System's name. Category 3 includes uninsured and unregistered investments for which the securities are held by a counterparty or its trust department or agent, but not in the System's name. All of the System's investments meet the criteria of Category 1, except investments in a short-term investment fund, a short-term collateral investment pool and those securities on loan for which the cash collateral is invested in the collateral investment pool, which by their nature are not required to be categorized.

FINANCIAL SECTION

NOTES TO THE FINANCIAL STATEMENTS

(Continued)

A schedule of investments as of June 30, 1998 follows:

Categorized investments

U.S. Government obligations	\$32,154,119
Asset-backed securities	91,197,002
Municipal bonds	5,691,704
Corporate bonds	51,015,646
Common and preferred stock	
Not on securities loan	297,077,113
On securities loan for securities collateral	<u>1,082,081</u>

Total categorized investments	478,217,665
--------------------------------------	--------------------

Uncategorized investments

Short-term investment fund	12,673,585
Securities lending short-term investment pool	39,274,546
Investments held by broker dealers under securities loans with cash collateral:	
US Government obligations	15,510,773
Common and preferred stock	<u>22,973,126</u>

Total uncategorized investments	90,432,030
--	-------------------

Total investments	<u>\$568,649,695</u>
--------------------------	-----------------------------

D. Income Taxes

The Internal Revenue Service issued a determination letter on February 23, 1995, which stated that the System and its underlying trust qualify under the applicable provisions of the Internal Revenue Code and therefore are exempt from federal income taxes. In the opinion of the plan administrator, the System and its underlying trust have operated within the terms of the System and are qualified under the applicable provisions of the Internal Revenue Code.

FINANCIAL SECTION

REQUIRED SUPPLEMENTARY INFORMATION

Six-year historical trend information about the System is presented herewith as required supplementary information. This information is intended to help users assess the System's funding status on a going-concern basis, assess progress made in accumulating assets to pay benefits when due, and make comparisons with other public employee retirement systems.

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
7/1/92	\$ 202,327,815	\$266,012,192	\$63,684,377	76.06%	\$ 42,100,110	151.27%
7/1/93	230,962,091	286,724,532	55,762,441	80.55%	41,695,944	133.74%
7/1/94	253,506,303	311,661,932	58,155,629	81.34%	43,064,972	135.04%
7/1/95	284,506,069	346,712,876	62,206,807	82.06%	45,743,970	135.99%
7/1/96	343,288,369	388,917,113	45,628,744	88.27%	49,065,647	93.00%
7/1/97	399,772,825	414,534,604	14,761,779	96.44%	50,307,487	29.34%

Analysis of the dollar amounts of plan net assets, actuarial accrued liability, and unfunded actuarial accrued liability in isolation can be misleading. Expressing plan net assets as a percentage of the actuarial accrued liability provides one indication of the System's funding status on a going-concern basis. Analysis of this percentage over time indicates whether the system is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the system. Trends in the unfunded actuarial accrued liability and annual covered payroll are both affected by inflation. Expressing the unfunded actuarial accrued liability as a percentage of annual covered payroll approximately adjusts for the effects of inflation and aids analysis of the system's progress made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the system.

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Fiscal Year Ended June 30	Annual Required Contribution	Percentage Contributed
1993	\$ 8,810,353	100%
1994	9,560,424	100%
1995	10,013,355	100%
1996	10,912,200	100%
1997	11,892,690	100%
1998	11,321,194	100%

FINANCIAL SECTION

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation date	July 1, 1997
Actuarial cost method	Entry age
Amortization method	Level percent closed
Remaining amortization period	Weighted average of 8.8 years
Asset valuation method	3- Year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.5%
Projected salary increases*	4.5%-8.00%
*Includes inflation at	4.00%
Cost-of-living adjustments	3.00%

The actuarial assumptions used have been recommended by the actuary and adopted by the System's Board of Trustees based upon the most recent review of the System's experience, completed in 1996.

The rate of employer contributions to the plan is composed of the normal cost, amortization of the unfunded actuarial liability, an allowance for administrative expenses and, for the July 1, 1997 valuation, a contingency amount to fund anticipated adverse experience in service connected disability claims. The normal cost is a level percent of pay cost which, along with the member contributions, will pay for projected benefits at retirement for the average plan participant. The actuarial liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial liability which is being amortized. The allowance for administrative expenses is based upon the plan's actual administrative expenses. The contingency amount was added for the July 1, 1997 valuation due to a new administrative policy set by the Police Department, limiting the period an officer can work in a restricted duty assignment. This policy may cause an increase in the number of officers retiring under the service-connected disability provision. The contingency amount will be built into the valuation assumptions as further experience develops.

Investment gains have resulted in a decrease in the unfunded actuarial liability as of valuation date. The result is an employer contribution rate of 19.40 percent for the fiscal year ending June 30, 1999, a decrease of 2.39 percent from the fiscal year 1998 rate of 21.79 percent.

SUPPORTING SCHEDULE

FINANCIAL SECTION

SCHEDULE OF INVESTMENT EXPENSE

For the Year Ended June 30, 1998

Securities lending expense	
Rebates paid to borrowers under securities lending agreements	\$2,223,133
Fees paid to securities lending agent	<u>55,901</u>
Total securities lending expense	2,279,034
Investment manager fees	
Equity managers	1,879,480
BEA Associates	
Capital Guardian Trust Co.	
Cohen & Steers Capital Management	
Furman Selz Capital Management	
Robert E. Torray & Co.	
Fixed income managers	<u>343,558</u>
BEA Associates	
Dodge & Cox Investment Managers	
Total investment management fees	2,223,038
Custody fees	94,447
Consultant fees	71,131
Allocated administrative expense	<u>76,869</u>
Total investment expense	<u>\$4,744,519</u>

THIS PAGE INTENTIONALLY LEFT BLANK

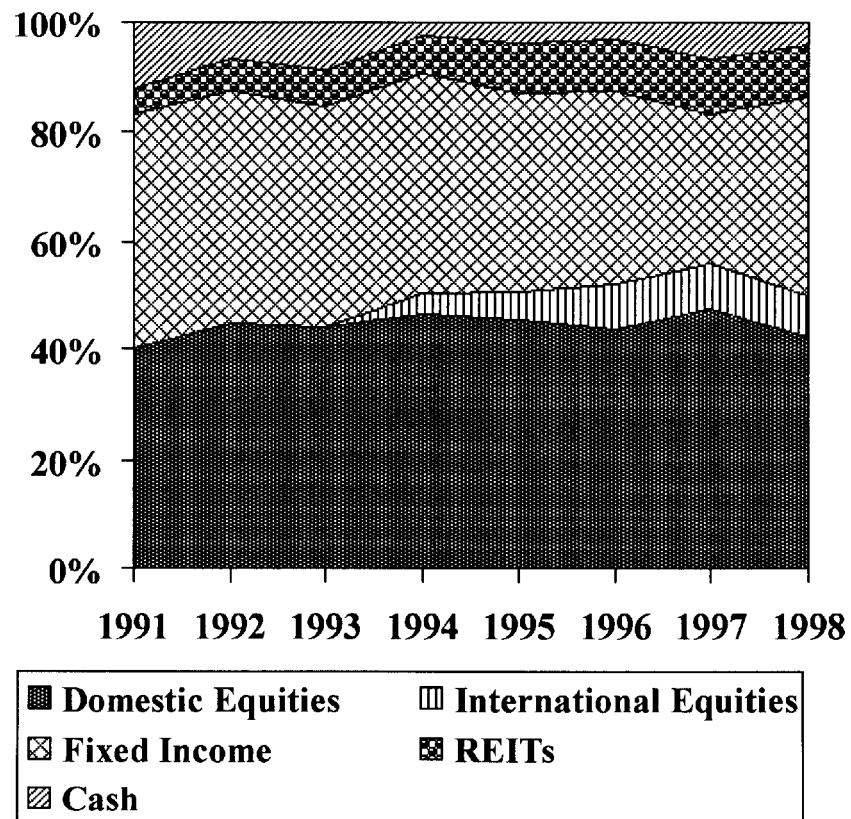
INVESTMENT SECTION

ASSET ALLOCATION BY CATEGORY AND INVESTMENT MANAGER

Asset Class Manager	Investment Style	Total Assets	% of Total Assets
<i>Domestic Equities</i>			
BEA Associates	Active Large Cap Core	\$93,909,061	17.6%
Robert E. Torray	Active Large Cap Value	97,360,894	18.2%
Furman Selz	Active Small Cap Growth	46,589,292	8.7%
<i>International Equities</i>			
Capital Guardian	Active EAFE	42,548,845	8.0%
<i>Real Estate</i>			
Cohen & Steers	Active Equity REITs	52,436,945	9.8%
<i>Domestic Fixed Income</i>			
Dodge & Cox	Active Core	90,550,761	17.0%
<i>Global Fixed Income</i>			
BEA Associates	Active Core	106,485,974	20.0%
<i>Cash Held At Treasurer</i>	Active Short Term	3,604,727	0.7%
Total Assets*		\$ 533,486,499	100.0%

* Without Cash Collateral

Asset Allocation 1991 - 1998



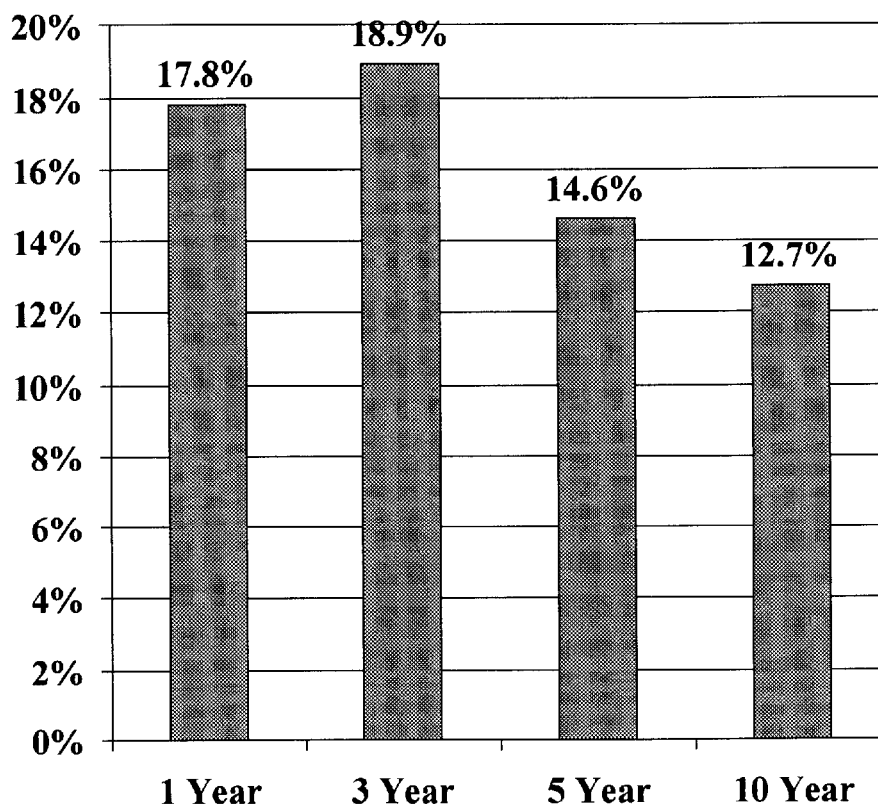
INVESTMENT SECTION

LIST OF LARGEST ASSETS HELD (June 30, 1998)

Fifteen Largest Equity Holdings	Shares	Market Value
AT&T Corporation	124,300	\$7,100,638
SLM Holding Corporation	118,300	5,796,700
IBM	46,400	5,327,300
Microsoft Corporation	45,900	4,974,413
Travelers Group Inc.	72,766	4,411,439
Loral Space & Communications	156,000	4,407,000
American Express Company	38,000	4,322,500
Merck & Company	31,400	4,199,750
Bristol-Myers Squibb Company	35,100	4,034,306
Hughes Electronics Corporation (General Motors Class H)	80,000	3,770,000
Vornado Realty Trust	94,100	3,734,594
Electronic Data Systems Corporation	90,600	3,618,338
J.P. Morgan & Company, Inc.	29,900	3,500,169
Mellon Bank Corporation	48,900	3,407,719
Illinois Tool Works, Inc.	49,300	3,287,694

Fifteen Largest Fixed Income Holdings	Interest Rate	Maturity Date	Par Value	Market Value
United States Treasury Notes				
United States Treasury Notes	7.750%	Nov. 1999	11,150,000	\$11,482,716
Federal National Mortgage Association TBA July 30-Year	6.250%	Jun. 2002	10,600,000	10,866,696
United States Treasury Notes	6.500%	Jul. 2028	8,035,000	8,002,298
United States Treasury Notes	6.875%	Jul. 1999	6,000,000	6,083,460
United States Treasury Bonds	6.250%	Aug. 2000	5,500,000	5,580,795
Federal Home Loan Mortgage Corporation TBA July 30 Gold	6.875%	Aug. 2025	4,390,000	5,084,147
Government National Mortgage Association TBA August 30	6.500%	Jul. 2028	4,700,000	4,686,746
Federal National Mortgage Association TBA July 15	7.500%	Aug. 2028	4,150,000	4,265,412
United States Treasury Notes	6.500%	Jul. 2028	4,200,000	4,223,604
Federal Home Loan Mortgage Corporation PC	5.500%	Feb. 1999	4,000,000	4,000,640
Federal National Mortgage Association Pool 313383	7.000%	Aug. 2007	3,500,000	3,636,710
Federal National Mortgage Association	6.500%	Nov. 2009	3,420,943	3,451,287
Federal National Mortgage Association	6.250%	Mar. 2009	3,000,000	3,016,860
Federal National Mortgage Association TBA July 30	6.000%	Mar. 2008	3,000,000	3,007,500
	8.000%	Jul. 2028	2,550,000	2,639,250

**TOTAL FUND AVERAGE RETURN
ON INVESTMENTS**





MILLIMAN & ROBERTSON, INC.
Actuaries & Consultants

Internationally WOODROW MILLIMAN

Suite 1000, 8000 Towers Crescent Drive, Vienna, VA 22182-2700
Telephone: 703/917-0143
Fax: 703/827-9266

October 2, 1998

Board of Trustees
Fairfax County Police Officers
Retirement System
10680 Main Street - Suite 280
Fairfax, VA 22030-3805

Dear Members of the Board:

At your request, we have performed our annual actuarial valuation of the Fairfax County Police Officers Retirement System as of July 1, 1997. The results of the valuation are contained in this report.

Funding Objective

The funding objective of the System is to establish contribution rates which, over time, will remain level as a percent of payroll. In order to achieve this, a contribution rate has been determined which will provide for current cost (i.e., normal cost expressed as a level percent of payroll) plus level percent of payroll amortizations of each layer of the unfunded liability over a 15 year period. This funding objective is currently being realized.

Assumptions

The actuarial assumptions used in this valuation have been recommended by the actuary and adopted by the Board of Trustees based upon the most recent review of the System's experience completed in 1997. We believe the assumptions used, in the aggregate, represent our best estimate of future experience of the plan.

While there were no changes in assumptions this year, there was a change in administrative policy regarding so-called "light duty" positions. Disabled officers who move to a light duty job status rather than applying for disability retirement may now only stay in such positions for a 12 month period. The Board of Trustees felt that this policy change would lead to a higher number of disability retirements than has historically been the case. Rather than immediately reflect an increase in the actuarial assumption regarding disability, the Board decided to hold a contingency in the otherwise calculated contribution rate. Once sufficient experience has been collected to measure the long-term impact of this policy change on the plan's disability retirement we will make a formal change in the assumptions. Until that time, we will continue to calculate the contingency amount on the basis of a worst-case scenario.

The assumptions and methods used in performing this valuation meet the parameters set for disclosure presented in the financial section by Government Accounting Standards Board (GASB) Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*.

Albany, Atlanta, Boston, Chicago, Dallas, Denver, Hartford, Houston, Indianapolis, Irvine, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Phoenix, Portland, ME, Portland, OR, St. Louis, Salt Lake City, San Diego, San Francisco, Seattle, Tampa, Washington, D.C., Bermuda, Tokyo
WOODROW MILLIMAN Member Firms in Principal Cities Worldwide

ACTUARIAL SECTION

Board of Trustees Fairfax County
Police Officers Retirement System
October 2, 1998
Page 2

Reliance on Others

In preparing our report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. We found the data to be reasonably consistent and comparable with data used in the prior valuation.

Supporting Schedules

We were responsible for all supporting schedules to be found in the Actuarial Section.

We were responsible for all years of the Schedule of Funding Progress, Schedule of Employer Contributions and Notes to Trend Data shown in the Financial Section.

Compliance with Code of Virginia §51.1-800

Code of Virginia §51.1-800 requires that the benefits provided a retiree at age 65 from a local retirement system equal or exceed two-thirds of the allowance to which the employee would be entitled under the provisions of the Virginia Retirement System (VRS). The Board of Trustees of the VRS is to determine whether a local system satisfies this condition, taking into account differences in member contributions between the local system and the VRS.

Although there is no formal procedure for making this comparison, we have compared the least valuable accrual rate under the Police Officers' Plan to the most valuable accrual rate under the VRS, making adjustments for the fact that employee contributions are required in excess of the VRS 5% rate. The employer provided accrual rates do exceed $\frac{2}{3}$ of the employer provided accrual rates under the VRS plan.

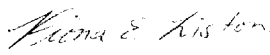
I certify that, to the best of my knowledge and understanding, the Fairfax County Police Officers Retirement System satisfies the requirements of the Code of Virginia §51.1-800.

Certification

On the basis of the foregoing, we certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the applicable Guides to Professional Conduct, Amplifying Opinions, and supporting Recommendations and Interpretations of the American Academy of Actuaries.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.


Fiona E. Liston, F.S.A.
Consulting Actuary

MILLIMAN & ROBERTSON, INC.

ACTUARIAL SECTION

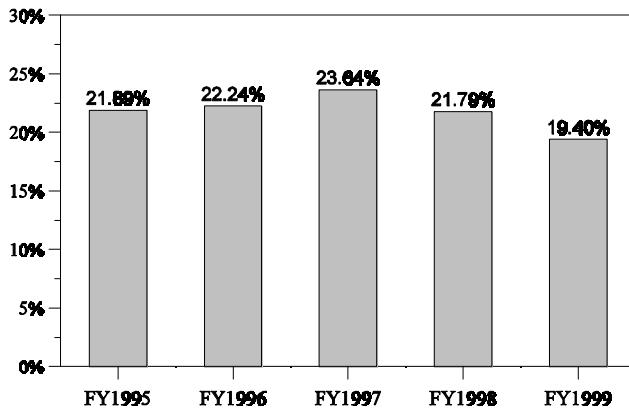
SUMMARY OF VALUATION RESULTS

(A) Overview

This report presents the results of our July 1, 1997 actuarial valuation of the Fairfax County Police Officers Retirement System.

The major findings of the valuation are summarized in the following charts.

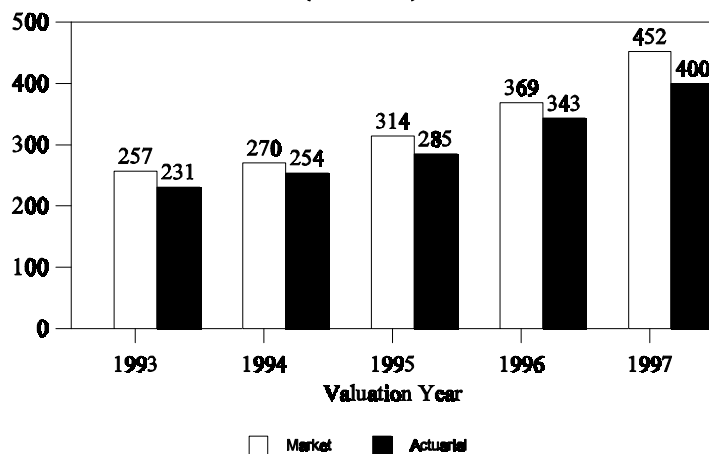
Employer Contribution Rates
(as a % of payroll)



The County contributions rate has dropped over the last three years, primarily due to investment performance.

The System's assets have grown 15% per year since 1993. The \$52 million difference between the market and actuarial values provide a cushion against future adverse performance.

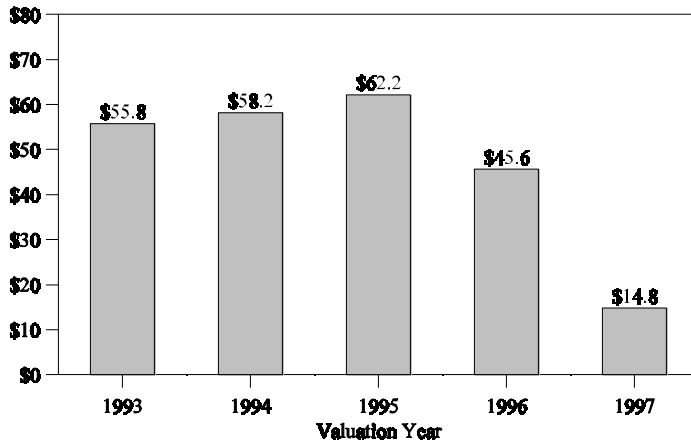
System Assets
(In Millions)



ACTUARIAL SECTION

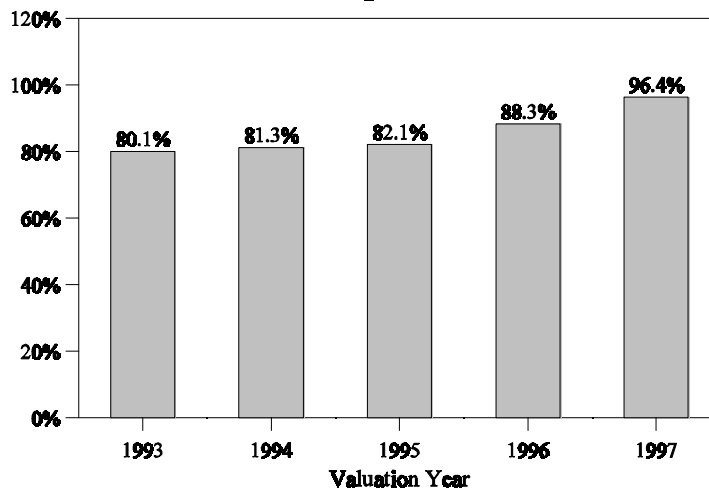
SUMMARY OF VALUATION RESULTS (Continued)

Unfunded Actuarial Liability
(In Millions)



The unfunded actuarial liability decreased over the last year. This was due to asset gains.

Funding Ratio



The ratio of actuarial assets to the actuarial liability increased over the past year. This is the GASB #25 measure of funding progress which replaces the PBO formerly reported.

(B) Summary of Results

The table on the next page compares the principal results from the 1996 and 1997 valuations. The 1997 liabilities do not reflect any additional amounts for the potential policy change on light duty positions. Only the recommended contribution rate reflects this contingency.

SUMMARY OF VALUATION RESULTS

ACTUARIAL SECTION

(Continued)

1. <u>Participant Data</u>	<u>July 1, 1996</u>	<u>July 1, 1997</u>	<u>Percent Change</u>
Number of:			
Active Members	1,037	1,037	0.0%
Retired Members and Beneficiaries	411	443	+ 7.8%
Disabled Members ^{1/}	42	43	+ 2.4%
Vested Former Members	1	1	0.0%
Annual Salaries of Active Members	\$ 45,157,516	\$ 46,595,459	+ 3.2%
Annual Benefits for Retired and Disabled Members, and Beneficiaries	\$ 12,704,286	\$ 13,881,226	+ 9.3%
2. <u>Assets and Liabilities</u>			
Total Actuarial Liability	\$ 388,917,113	\$ 414,534,604	+ 6.6%
Assets for Cost Purposes	\$ 343,288,369	\$ 399,772,825	+16.5%
Unfunded Actuarial Liability	\$ 45,628,744	\$ 14,761,779	- 67.6%
3. <u>Contribution Results (as percent of payroll)</u>	<u>1996</u>	<u>1997</u>	
Employer Normal Cost Contribution	12.29%	12.29%	
Unfunded Actuarial Liability Contribution	9.20	3.84	
Administrative Expenses	<u>0.30</u>	<u>0.30</u>	
Total Contribution	21.79%	16.43%	
Contingency for Policy Change in Restricted Duty Assignments	<u>N/A</u>	<u>2.97%</u>	
Total Contribution	21.79%	19.40%	

^{1/} Includes retirees whose benefits have converted to service benefits.

ACTUARIAL SECTION

SUMMARY OF VALUATION RESULTS

(Continued)

(C) Valuation Highlights

1. System Assets

As of July 1, 1997, the System had assets at fair value of \$452.4 million, as compared to \$368.9 million as of July 1, 1996. The increase of \$83.5 million was attributable to the following:

- an increase of \$17.9 million due to employer and member contributions;
- a decrease of \$13.7 million due to payment of System benefits and expenses;
- an increase of \$79.3 million due to System investment experience (realized and unrealized).

When measured on an actuarial basis for contribution purposes (in order to smooth the peaks and valleys of market fluctuations), System assets were \$399.8 million as of July 1, 1997, up from \$343.3 million as of July 1, 1996. Of the total \$56.5 million increase, \$30.2 million was expected based on our assumption that the System assets would earn 7.5% per year. System assets increased an additional \$26.3 million, representing a recognized actuarial gain.

Overall, the rate of return on System assets during the year was 21.4% on a fair value basis and 15.1% actuarial basis.

2. System Liabilities

Two types of liabilities are presented in this report; actuarial liabilities and the liability for benefits accrued to date. Actuarial liabilities are developed and used for ongoing funding purposes and include a portion of future anticipated pay increases and service credit. This measure is also used as the measurement of actuarial accrued liability required to be disclosed under Governmental Accounting Standards Board Statement No. 25.

The liability for benefits accrued to date measures the present value of all future System benefits based on service to date. In this report we present a measure of the liability for benefits accrued which conforms with Statement No. 35 of the Financial Accounting Standards Board.

As of July 1, 1997, the System actuarial liabilities were \$414.5 million, as compared to \$388.9 million as of July 1, 1996. When measured against System assets (actuarial value) of \$399.8 million, there are System unfunded actuarial liabilities of \$14.8 million. This compares to \$45.6 million of unfunded actuarial liabilities as of July 1, 1996.

SUMMARY OF VALUATION RESULTS

(Continued)

ACTUARIAL SECTION

Viewed another way, the ratio of assets to actuarial liabilities increased from 88.3% (July 1, 1996) to 96.4% (July 1, 1997).

With respect to the liabilities for benefits accrued as of the valuation date, this valuation shows a liability under FASB rules of \$343.6 million as compared to \$320.5 million as of July 1, 1996.

Since these liabilities are based upon a current "snapshot" of members' pay and service, the common approach is to compare this liability with the fair (i.e. current) value of System assets. This comparison shows that the ratio of System assets (fair value) to liabilities accrued to date under FASB Statement 35 has increased from 115.1% (July 1, 1996) to 131.7% (July 1, 1997).

3. System Contributions

Contributions to the System include a "normal cost rate" which is to cover a portion of projected liabilities on account of service of members during the year following the valuation date.

In addition, an unfunded actuarial liability contribution is made which, together with assets on hand, will fund the portion of projected liabilities on account of service rendered prior to the valuation date.

Finally, a provision for System administrative expenses is made by adding 0.30% of member payroll to the total contribution.

As determined by the valuation just completed, the employer normal contribution rate is 12.29% of member payroll. The unfunded actuarial liability rate is 3.84% of payroll. Together with the administrative expense rate, this results in a total employer contribution rate from the July 1, 1997 valuation, of 16.43% of payroll compared with a July 1, 1996 valuation rate of 21.79% of payroll. In addition to the calculated rate of 16.43%, we are recommending that an additional 2.97% be budgeted to account for the increase that would occur if the County implements its proposed policy on restricted duty assignments.

The decrease in the employer contribution rate as a percentage of payroll is attributable to the following:

ACTUARIAL SECTION

SUMMARY OF VALUATION RESULTS

(Continued)

Employer Contribution Rate July 1, 1996 valuation; fiscal year 1998	21.79%
Decrease due to asset gains	(4.77)
Decrease due to actuarial experience gain	(0.59)
Contingency for change in light-duty policy	<u>2.97</u>
Employer Contribution Rate July 1, 1997 valuation; fiscal year 1999	19.40%

4. Membership

The total active membership of the Police Officers Retirement System remained at 1,037. With respect to inactive members, the number of retired members and their beneficiaries has increased from 411 as of July 1, 1996, to 443 on July 1, 1997. The number of disabled members receiving benefits increased from 42, as of July 1, 1996, to 43 on July 1, 1997 and the number of former members with vested rights remained at 1 over the last year.

In total, the membership of the System, both active and inactive, has increased 2.2% from 1,491 members as of July 1, 1996, to 1,524 members as of July 1, 1997.

ACTUARIAL SECTION

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

(A) *Funding Method*

The System uses the aggregate accrual modification of the entry age normal method with projection to determine costs. Under this funding method, a total contribution rate is determined which consists of three elements, the normal cost rate, the unfunded actuarial liability rate and the administrative expense rate.

The normal cost rate is a level percent of pay cost which, along with the member contributions, will pay for projected benefits at retirement. This level percent is calculated at entry age for each individual and a weighted average is used for the group. The level percent developed is called the normal cost rate and the product of that rate and payroll is the normal cost. Effective with the 1995 valuation, the normal cost rate was frozen until there is another major plan amendment or a significant change in actuarial assumptions.

In addition to contributions required to meet the System's normal cost, contributions will be required to fund the System's unfunded actuarial liability. Actuarial liability is defined as the present value of future benefits less the present value of future normal costs. The unfunded actuarial liability is the total of the actuarial liability for all members less the actuarial value of the System's assets.

The unfunded actuarial liability rate is the level percent of member payroll which, when applied to each year's payroll is sufficient to amortize the July 1, 1995 unfunded actuarial liability in 15 years, and each subsequent year's gains, losses or plan amendments over 15 years.

An assumed expense rate of 0.30% of payroll is added to cover the System's administrative expenses.

(B) *Asset Valuation Method*

The fair value representing the value for which assets could be sold on a particular day, is not necessarily an appropriate value for the purpose of setting the contribution rates for the System. This is because funding will take place over a long period into the future during which time fair values can be expected to fluctuate widely. If fair values were used to develop contribution rates, the resulting contributions would also vary widely.

In order to produce a stable pattern of contribution rates, fair values are adjusted so that some of the volatility is removed. This adjusted value is determined by using a three-year moving average. Under this method, the actuarial value of the assets is a

ACTUARIAL SECTION

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

(Continued)

weighted average between the expected value, assuming the actuarially assumed investment return (8½% through 7/1/96 and 7½% thereafter) was achieved, and the actual fair value. The calculation is weighted **a** to the actual fair value and **b** to the expected value. This is mathematically equivalent to recognizing 100% of the actuarial assumed investment return, of contributions and of payments each year and **a** of the difference between that expected value and the fair value.

(C) Actuarial Assumptions

The assumptions used for the actuarial valuation were recommended by the actuary and adopted by the Board of Trustees based on periodic analysis of the System's experience. Differences between assumed and actual experience (actuarial gains and losses) are part of the unfunded actuarial liability. The following significant assumptions were used in the actuarial valuation as of June 30, 1997:

- a. a rate of return on investments of 7½% compounded annually (adopted July 1, 1996, the prior rate was 8½%);
- b. projected salary increases of 4% compounded annually, attributable to inflation (adopted July 1, 1996, the prior rate was 5%);
- c. additional projected salary increases ranging from 0.5% to 4.0% per year, attributable to merit and seniority (adopted July 1, 1996, the prior range was from 0.5% to 4.5% per year);
- d. post retirement benefit increases of 3% compounded annually (adopted July 1, 1996, the prior rate was 4%);
- e. rates of mortality, termination of service, disablement, and retirement are based on actual experience;
- f. aggregate active member payroll is assumed to increase by 4% annually (adopted July 1, 1996, the prior rate was 7%).

A detailed listing of all actuarial assumptions follows:

ACTUARIAL SECTION

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

(Continued)

A. Long Term Assumptions Used to Determine System Costs and Liabilities

1. DEMOGRAPHIC ASSUMPTIONS

a. Mortality: 1994 Uninsured Pensioners Mortality Table

*Annual Deaths Per 1000 Members**

<u>Age</u>	<u>Male Deaths</u>	<u>Female Deaths</u>	<u>Age</u>	<u>Male Deaths</u>	<u>Female Deaths</u>
20	1	0	65	16	9
25	1	0	70	26	15
30	1	0	75	40	24
35	1	1	80	67	42
40	1	1	85	105	73
45	2	1	90	164	125
50	3	2	95	251	200
55	5	2	100	341	297
60	9	5	105	441	415

* 20% of deaths are assumed to be service-connected.

b. Termination of Employment (Prior to Normal Retirement Eligibility)

Annual Terminations per 100 Members

<u>Years of Service</u>	<u>Terminations</u>
0	100
1	75
2	50
3	50
4	30
5 or more	15

ACTUARIAL SECTION

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

(Continued)

It is assumed that members who terminate before normal or early retirement age elect to receive a refund of contributions instead of vested benefits.

c. Disability

<u>Age</u>	<u>Annual Disabilities per 100 Members* Male and Female</u>	<u>Age</u>	<u>Annual Deaths Per 1000 Disabled Members Male and Female</u>
25	2	45	43
30	2	50	48
35	2	55	53
40	2	60	58
45	4	65	64
50	6	70	73
55	6	75	89
60	6	80	107

* 70% of disabilities are assumed to be service-connected, and are assumed to receive Workers' Compensation benefits.

d. Retirement:

<u>Years of Service</u>	<u>Probability of Retirement:</u>	
	<u>Hired pre-7/1/81</u>	<u>Hired post-7/1/81</u>
20	25%	N/A
21	25%	N/A
22	25%	N/A
23	25%	N/A
24	25%	N/A
25	25%	25%
26	25%	25%
27	25%	25%
28	25%	25%
29	25%	25%
30	100%	100%

ACTUARIAL SECTION

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

(Continued)

e. Merit/Seniority Salary Increases (in addition to across-the-board increase):

<u>Years of Service</u>	<u>Merit/Seniority Increase</u>
0	4.0%
5	4.0%
10	1.7%
15	1.4%
20	1.1%
25	0.8%
30	0.5%

f. Family Composition

For purposes of valuing the pre-retirement death benefit, an assumption concerning how many employees are married is needed. The assumption used in this valuation is that 80% of employees are married at death while active and that the female spouse is five years younger than the male spouse. In addition, each married employee is assumed to have two children, 22 and 24 years younger than the employee.

g. Sick Leave Credit

It is assumed that retirees, deferred vested terminations and deceased members receive an additional 3% of service credit due to sick leave.

2. ECONOMIC ASSUMPTIONS

- a. Investment Return: 7.5% compound per annum
- b. Cost-of-Living Benefit Increase: 3.0% compound per annum (based on a CPI increase of 4.0%).
- c. Across-the-Board Increase in County Salaries: 4.0% compound per annum.
- d. Total Payroll Increase (for amortization): 4.0% compound per annum.
- e. Administrative Expenses: 0.3% of payroll.

ACTUARIAL SECTION

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

(Continued)

3. *CHANGES SINCE LAST VALUATION*

None.

ACTUARIAL SECTION

ANALYSIS OF FINANCIAL EXPERIENCE

Gains and Losses in Accrued Liability During Years Ended June 30, 1997 Resulting from Differences Between Assumed Experience and Actual Experience

<i>Type of Activity</i>	<i>1994</i>	<i>Gain (or Loss) for Year ending June 30,</i>		
		<i>1995</i>	<i>1996</i>	<i>1997</i>
Investment Income	(\$2,070,455)	\$5,183,400	11,064,878	26,316,711
Combined liability Experience	<u>1,613,516</u>	<u>1,969,628</u>	<u>6,896,962</u>	<u>3,274,850</u>
Gain (or Loss) During Year from Financial Experience	(456,939)	\$7,153,028	\$17,961,840	\$29,591,561
Non-Recurring Items	<u>(1,325,388)</u>	<u>(16,544,874)</u>	<u>(8,161,405)</u>	<u>0</u>
Composite Gain (or Loss) During Year	(\$1,782,327)	(\$9,391,846)	\$9,800,435	\$29,591,561

SCHEDULE OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS

<i>Year Ended June 30,</i>	<i>Added to Rolls</i>		<i>Removed From Roll</i>		<i>On Rolls @ Yr. End</i>		<i>% Increase Allowance</i>	<i>Average Allowance</i>
	<i>No.</i>	<i>Annual Allowance</i>	<i>No.</i>	<i>Annual Allowance</i>	<i>No.</i>	<i>Annual Allowance</i>		
1994					408	10,366,273		25,408
1995	48	1,996,537	17	337,571	439	12,025,239	16.00%	27,392
1996	21	817,684	7	138,637	453	12,704,286	5.65%	28,045
1997	39	1,034,443	6	132,576	486	13,606,153	7.10%	27,996

ACTUARIAL SECTION

SOLVENCY TEST

Valuation Date	Aggregate Accrued Liabilities For			Reported Assets	Portion of Accrued Liabilities Covered by Reported Assets		
	(1) Active Member Contributions	(2) Retirees, Vested Terms, Beneficiaries	(3) Active Members, (Employer Financial Portion)		(1)	(2)	(3)
7/1/92	33,413,310	119,575,861	113,023,021	202,327,815	100%	100%	44%
7/1/93	36,310,862	131,920,970	118,492,700	230,962,091	100%	100%	53%
7/1/94	40,263,035	157,869,733	113,479,164	253,506,303	100%	100%	49%
7/1/95	40,220,658	182,268,442	124,223,776	284,506,069	100%	100%	50%
7/1/96	44,117,091	202,684,707	142,115,315	343,288,369	100%	100%	68%
7/1/97	47,116,095	220,184,346	147,234,163	399,772,825	100%	100%	90%

STATISTICAL SECTION

SCHEDULE OF ADDITIONS BY SOURCE AND DEDUCTIONS BY TYPE

ADDITIONS

<u>Fiscal Year</u>	<u>Plan Member Contributions</u>	<u>Employer Contributions</u>	<u>Employer Contributions % of Covered Payroll</u>	<u>Net Investment Income</u>	<u>Total Revenues</u>
1993	\$5,011,153	\$ 8,810,353	21.13%	\$37,020,876 ¹	\$50,842,382
1994	5,219,182	9,560,424	22.20%	4,692,988 ¹	19,472,594
1995	5,478,181	10,013,355	21.89%	39,699,044 ¹	55,190,580
1996	5,874,078	10,912,200	22.24%	50,837,320	67,623,598
1997	6,030,834	11,892,690	23.64%	79,291,566	97,215,090
1998	6,235,043	11,321,194	21.79%	78,218,263	95,774,500

DEDUCTIONS

<u>Fiscal Year</u>	<u>Benefit Payments</u>	<u>Refunds of Contributions</u>	<u>Administrative Expenses</u>	<u>Total Expenses</u>
1993	\$ 8,077,242	\$314,971	\$168,115 ²	\$ 8,560,328
1994	9,437,482	287,773	234,302 ²	9,959,557
1995	10,918,230	217,976	228,122 ²	11,364,328
1996	12,421,488	415,766	175,394	13,012,648
1997	13,252,630	268,755	140,522	13,661,907
1998	14,765,658	476,784	153,738	15,396,180

¹ The net investment income for 1993-95 has been restated from amounts previously reported to recognize the investment expense and the change in unrealized gains occurring each year.

² Administrative expenses for 1993-95 are net of an expense allocation to investment expense. Investment expense has been deducted in the computation of Net Investment Income.

STATISTICAL SECTION

SCHEDULE OF BENEFIT PAYMENTS BY TYPE

Fiscal Year Ended June 30,	<u>Annuity</u>	<u>Service- Connected Disability</u>	<u>Ordinary</u>	<u>Survivor</u>	<u>Total</u>
1993	\$6,749,759	\$ 853,838	\$ 77,064	\$396,581	\$8,077,242
1994	7,986,865	902,363	80,775	467,479	9,437,482
1995	9,458,977	839,990	83,159	536,104	10,918,230
1996	10,882,682	822,283	96,212	620,311	12,421,488
1997	11,610,814	815,848	98,785	727,183	13,252,630
1998	12,939,235	906,259	100,147	820,017	14,765,658

SCHEDULE OF RETIRED MEMBERS BY TYPE

Fiscal Year Ended June 30,	<u>Annuity</u>	<u>Service- Connected Disability</u>	<u>Ordinary</u>	<u>Survivor</u>	<u>Total</u>
1993	279	40	7	32	358
1994	321	41	7	39	408
1995	354	36	7	42	439
1996	368	33	8	43	452
1997	388	35	8	55	486
1998	431	38	8	55	532

SCHEDULE OF AVERAGE MONTHLY BENEFIT AMOUNTS

Fiscal Year Ended June 30,	<u>Annuity</u>	<u>Service- Connected Disability</u>	<u>Ordinary</u>	<u>Survivor</u>	<u>Average</u>
1993	\$2,168	\$1,864	\$ 962	\$1,109	\$2,037
1994	2,289	1,889	991	1,149	2,117
1995	2,473	1,930	1,055	1,188	2,283
1996	2,476	2,027	1,006	1,208	2,297
1997	2,603	2,002	1,049	1,243	2,380
1998	2,671	2,121	1,068	1,276	2,463